

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 20-37 are now present in this application. Claims 20 and 36 are independent. Claims 20, 22-34 and 36 have been amended.

Reconsideration of this application, as amended, is respectfully requested.

Objection to the Abstract, Specification and Drawings

Applicants note with appreciation the withdrawal of the objections to the Abstract, specification and drawings.

Rejection Under 35 U.S.C. § 112

Claims 20-37 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed.

The Examiner makes comments A-F regarding the pending claims.

Regarding item F, Applicants thank the Examiner for noting the incorrect terminology in line 9 of claim 36. The word, "tube" has been replaced with --duct--.

Regarding item C, Applicants have amended claims 27 so as to improve the syntax. Specifically, the phrase "by micro-mechanical means" has been moved to the end of the sentence.

Regarding item B, the Examiner takes issue with the phrase in claim 20 which recites "outlets are sized to prevent passage of more than one of the objects at a time." The Examiner asserts that it is unclear whether the outlets prevent passage of more than one object. The Examiner suggests deleting the phrase "are sized to." Applicants affirm that the outlets prevent passage of more than one object. Further, Applicants have deleted the phrase "are sized to," as suggested by the Examiner.

Regarding item A, the Examiner asserts that claims 20-35 are indefinite because the preamble of claim 20 recites that the method uses a dispenser but the method steps do not include the step of "dispensing." To tie the structure of the dispenser to the recited method steps, Applicants have adopted the Examiner's suggestion of using the word "dispensing" in the body of the claim.

Regarding item D, the Examiner asserts that "detecting nucleotide sequences" lacks proper antecedent basis. Applicants respectfully submit that this is the first introduction of the phrase "nucleotide sequences." Therefore, there is no need for an antecedent basis for this newly introduced term. Regarding the Examiner's suggestion to replace the phrase, Applicants respectfully decline, since nucleotide sequences are being detected, the

"biological-chemical active substance" is not being detected, but rather is used to detect the nucleotide sequences.

Regarding item E, the Examiner asserts that the word "using" renders claim 33 indefinite. Applicants respectfully disagree. On page 3, item D of the Office Action mailed October 25, 2000, the Examiner suggested the phrase "the fixed objects . . . are used for the detection of nucleotide sequences." In the present amendment, Applicants have simply adopted the Examiner's previous suggestion, and restated the Examiner's suggestion in an active-tense method step, namely "detecting nucleotide sequences using the deposited objects." It is respectfully submitted that one of ordinary skill in the art would understand that the deposited objects can be "used" to detect nucleotide sequences. For example, the deposited objects may be "used" by observing them with a CCD imager to evaluate color changes.

For the reasons as stated above, reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph, are respectfully requested.

Rejections Under 35 U.S.C. § 102 and 103

Claims 20-24, 26, 27 and 36 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Balch. Claims 25, 28 and 30-35 stand rejected under 35 U.S.C. § 103(a) as being unpatenable over Balch in view of Lough et al. Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Balch in view of Lough et al. and further in view of Gavin et al. Claim 37 stands

rejected under 35 U.S.C. § 103(a) as being unpatentable over Balch. These rejections are respectfully traversed.

The Examiner states on page 4, lines 1-19 that he is taking a very broad interpretation of Applicants' claim language. Specifically, the Examiner is adopting the position that the term "objects" can be broadly interpreted to encompass a "droplet." The word "objects" typically refers to something solid. However, in a general context, Applicants can appreciate the Examiner's argument that a droplet could be broadly defined as an object. However, in the context of Applicants' independent claims 20 and 36, it is respectfully submitted that such a broad interpretation is foreclosed.

In Applicants' independent claims 20 and 36, line 2 recites: "objects, which are contained in a liquid." The context of the recitation would directly imply to one of ordinary skill in the art that the "objects" are something different than the liquid itself, since they are contained therein.

While Applicants believe that the recitation "objects which are contained in a liquid" is enough to clarify that the objects are not liquid themselves, in an abundance of caution, Applicants have amended the pending claims to recite "non-liquid objects." It is respectfully asserted that this is not a limitation which the Examiner failed to previously consider. For instance, in the Office Action mailed October 25, 2000, the Examiner evaluated the "objects" as being non-liquid or solid. In the rejections set forth in paragraph 7 of that Office

Action, the Examiner applied the prior art of Gavin et al. as teaching "objects i.e. beads."

In any event, the claims should now be very clear that the objects are not the liquid. Since Balch fails to show dispensing of non-liquid objects, it is respectfully submitted that Balch cannot anticipate claims 20-24, 26, 27 and 36. As such, the rejection under 35 U.S.C § 102(b) should be reconsidered and withdrawn.

Lough et al. has been cited by the Examiner as a teaching reference. The Examiner asserts that Lough et al. teach fixing objects electrostatically to a support. The objects comprise beads. The Examiner asserts that it would have been obvious to one of ordinary skill in the art to have placed the beads of Lough et al. into the liquid of Balch.

Applicants respectfully disagree with the Examiner's combination of prior art. It is respectfully asserts that one of ordinary skill in the art would not have been motivated to have placed a bead as taught by Lough et al. into the ink-jet device of Balch. Balch's device is specifically designed to release droplets of liquid from the ink-jets. The droplets of liquid are received in nanoliter wells (column 12, lines 18-19).

It is respectfully submitted that if micro-balls, in a size range of about 1 to 100 micrometers in diameter as taught by Lough et al. (column 3, lines 13-14), were placed into the ink-jets of Balch, an inoperable device would result. The micro-balls would most likely block the ink-jets, particularly since the ink-

jets were designed to dispense liquids, not solids, into nanoliter wells. Moreover, one of ordinary skill in the art would not have considered or been motivated to dispense solids from ink-jets, designed to dispense liquids.

For the reasons as stated above, reconsideration and withdrawal of these rejections are respectfully requested.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Scott L. Lowe (Reg. No. 41,458) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Applicant(s) respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and 1.17 for a one month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$55.00 attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Enclosures: Version with Markings to Show Changes Made